

BECC-107

**BACHELOR OF ARTS
ECONOMICS (HONOURS)**

(BAECH)

ASSIGNMENTS 2024-25
(For July 2024 and January 2025 Admission Cycles)

COURSE CODE: BECC-107
STATISTICAL METHODS FOR ECONOMICS



SCHOOL OF SOCIAL SCIENCES
INDIRA GANDHI NATIONAL OPEN UNIVERSITY
MAIDAN GARHI, NEW DELHI-68

Dear Student,

As explained in the Programme Guide, evaluation of a course at IGNOU comprise i) continuous evaluation through assignments, and ii) term-end examination. In the final result, assignments of a course carry 30% weightage while 70% weightage is given to term-end examination. You will have to do three assignments for a six credit course and two assignments for a four credit course. This assignment booklet has assignments for the core course **BECC-107: Statistical Methods for Economics**.

Assignment I has Descriptive Category Questions (DCQs). These are meant for writing essay type answers, with an introduction and a conclusion. These are intended to test your ability to describe your understanding/knowledge about a topic in a systematic, to-the-point and coherent manner.

Assignment II has Middle Category Questions (MCQs). These questions require you to first analyse the topic in terms of arguments and explanations and then write the answers in a concise manner. They are meant to test your ability to distinguish, compare and contrast, and clear understanding of the concepts and processes.

Assignment III has Short Category Questions (SCQs). These questions are meant to improve your skill of recall in brief the relevant/ precise information about various concepts and processes.

Before you attempt the assignments, please read carefully the instructions provided in the Programme Guide. It is important that you write the answers to all the questions in your own words. Your answers should be within the approximate range of the word-limit set for a particular section. Remember that writing answers to assignment questions will improve your writing skill and prepare you for the Term-End Examination.

As mentioned in the Programme Guide, you need to submit all the assignments within the stipulated time for being eligible to appear in the term-end examination. Completed assignments should be submitted to the **Coordinator of your Study Centre** by:

For students of July 2024 cycle: 31.03.2025

For students of January 2025 cycle: 30.09.2025

You must obtain a receipt from the Study Centre for the assignments submitted and retain it. If possible, keep a photocopy/ scanned copy of the assignments submitted by you.

The Study Centre will have to return the assignments to you after they are evaluated. Please insist on this.

We expect you to answer each question as per guidelines for each category questions as mentioned in the assignment. You will find it useful to keep the following points in mind:

- 1) **Planning:** Read the assignments carefully. Go through the Units on which they are based. Make important points regarding each question and then rearrange them in a logical order.
- 2) **Organisation:** Be a little selective and analytic before drawing up a rough outline of your answer. Give adequate attention to your introduction and conclusion.

Make sure that your answer
 - a) is logical and coherent;
 - b) has clear connections between sentences and paragraphs, and
 - c) is written correctly giving adequate consideration to your expression, style and presentation.
- 3) **Presentation:** Once you are satisfied with your answer, you can write down the final version for submission, writing each answer neatly and underlining the points you wish to emphasize. Make sure that the answer is within the stipulated word limit.

BECC-107 : STATISTICAL METHODS FOR ECONOMICS

Course Code: BECC-107

Assignment Code: ASST/BECC 107/ 2024-25

Total Marks: 100

Assignment I

Answer the following Descriptive Category Questions in about 500 words each. Each question carries 20 marks. Word limit does not apply in the case of numerical questions. 20 x 2 = 40

- 1) Probability of two events, A and B , are given by $P(A) = \frac{1}{2}$, $P(\bar{A} \cap B) = \frac{1}{6}$ and $P(A \cap B) = \frac{1}{3}$. Find $P(B)$, $P(A \cup B)$, $P(A/B)$, $P(B/A)$, $P(\bar{A} \cup \bar{B})$ and $P(\bar{A} \cap \bar{B})$. Also examine whether A and B are
 - a) Equally likely
 - b) Exhaustive
 - c) Mutually exclusive
 - d) Independent.
- 2) (a) Explain the concepts of level of significance and rejection region using suitable diagram of a standard normal curve.
(b) Explain the concept of standard error through a suitable example. What are its implications?
(c) How do you construct confidence interval for a statistic? What are its implications?

Assignment II

Answer the following Middle Category Questions in about 250 words each. Each question carries 10 marks. Word limit does not apply in the case of numerical questions. 10 x 3 = 30

- 3) For a binomial experiment, show that the probability of x successes $p(x)$ is given by ${}^n C_x p^x (1-p)^{n-x}$
- 4) Calculate index numbers using Paasche's method and Fisher's method from the following data.

Commodity	p_1	q_1	p_0	q_0
A	5	14	3	8
B	8	18	6	25
C	3	25	1	40
D	15	36	12	48
E	9	14	7	18
F	7	13	5	19

- 5) Explain how the normal equations for a regression model can be derived.

Assignment III

Answer the following Short Category Questions. Each question carries 15 marks.

15 x 2 = 30

- 6) Write short notes on the following:
- (a) Concept of a random variable
 - (a) Properties of standard normal distribution
 - (b) Coefficient of variation
- 7) Differentiate between the following:
- (a) Systematic random sampling and Stratified random sampling
 - (b) Various methods of primary data collection
 - (c) Estimator and Estimate